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| FORM PTO-1449 (REV. 7-89) | U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO. PA113B1C1 | SERIAL NO. 10/021,865 |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) | | APPLICANT Strich et al. | |
| | | FILING DATE December 17, 2001 | GROUP 2664 |
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U.S. PATENT DOCUMENTS

| EXAMINER INITIAL | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB CLASS | FILING DATE IF APPRO- PRIATE |
|---------------------|-------------------|----------|------------------|-------|--------------|---------------------------------------|
| | A1 4 4 3 5 8 4 0 | 03/06/84 | Kojima et al. | 455 | 33 | |
| | A2 4 5 4 9 3 1 1 | 10/22/85 | McLaughlin | 455 | 277 | |
| | A3 4 4 8 5 4 8 6 | 11/27/84 | Webb et al. | 455 | 33 | |
| | A4 4 6 5 2 8 8 0 | 03/24/87 | Moeller et al. | 342 | 373 | |
| | A5 4 7 0 4 7 3 4 | 11/03/87 | Menich et al. | 455 | 33 | |
| | A6 4 7 2 6 0 5 0 | 02/16/88 | Menich et al. | 379 | 60 | |
| | A7 4 7 5 0 0 3 6 | 06/04/88 | Martinez | 358 | 147 | |
| | A8 4 9 0 1 3 0 7 | 02/13/90 | Gilhousen et al. | 370 | 18 | |
| | A9 5 0 2 1 8 0 1 | 06/04/91 | Smith et al. | 343 | 876 | |
| | A10 5 0 4 8 1 1 6 | 09/10/91 | Schaeffer | 455 | 33 | |
| | A11 5 1 0 3 4 5 9 | 04/07/92 | Gilhousen et al. | 375 | 1 | |
| | A12 5 1 8 7 8 0 6 | 02/16/93 | Johnson et al. | 455 | 15 | |
| | A13 5 1 9 3 1 0 9 | 10/25/91 | Lee | 379 | 60 | |
| | A14 5 2 3 5 6 1 6 | 08/10/93 | Sebilet | 375 | 1 | |
| | A15 5 2 4 1 6 8 5 | 08/31/93 | Bodin et al. | 455 | 33.2 | |
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| | A17 5 2 6 5 2 6 3 | 11/23/93 | Ramsdale et al. | 455 | 33.2 | |
| | A18 5 3 1 7 5 9 3 | 05/31/94 | Fulghum et al. | 375 | 1 | |
| | A19 5 3 4 3 1 7 3 | 08/30/94 | Baldois et al. | 333 | 126 | |
| | A20 5 4 0 4 5 7 6 | 04/04/95 | Yahagi | 455 | 56.1 | |
| | A21 5 4 2 2 9 0 8 | 06/06/95 | Schilling | 375 | 203 | |
| | A22 5 4 2 8 8 1 8 | 06/27/95 | Meidan et al. | 455 | 33.3 | |

FOREIGN PATENT DOCUMENTS

| EXAMINER INITIAL | Ref No | DOCUMENT NUMBER | DATE | COUNTRY | NAME | CLASS | SUB CLASS |
|---------------------|-----------|-----------------|----------|---------|-------------------------|-------|--------------|
| | B1 | 9 2 1 0 0 7 4 | 06/24/93 | PCT | Arraycomm, Incorporated | H04B | 7/26 |
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| | B3 | | | | | | |

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OTHER PRIOR ART (Including Author, Title, Date, Pertinent Page, Etc.)

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|---|---|
| C1 | Naguib, Ayman F. et al., "Capacity Improvement with Base-Station Antenna Arrays in Cellular CDMA", IEEE Transactions on Vehicular Technology, Vol. 43, No. 3, August 1994, pgs 691-698. |
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| C2 | Suzuki, Mitsuyoshi et al., "Frequency Re-using Pattern for Forward Link of Orthogonal CDMA Cellular Systems," IEICE Trans. Commun., Vol E77-B, No. 6, June 1994, pgs 838-842. |
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| C3 | Swales, S.C. et al. "A Spectrum Efficient Cellular Base-Station Antenna Architecture", Sixth International Conference on Mobile Radio and Personal Communications, Conference Publication No. 351, pgs 272-279 |
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| C4 | Swales, S.C. et al., "Multi-Beam Adaptive Base-Station Antennas for Cellular Land Mobile Radio Systems", 39 th IEEE Vehicular Technology Conference, Vol I, May 1-3, 1989 San Francisco, California, pgs 341-348 |
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| C5 | "Smart Antenna Module," Northern Telecom Inc., October 5, 1993, 4 pages |
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| C6 | "PCS 1900 Advanced Services Generating Revenue for PCS Providers," Northern Telecom Inc., September 1993, 13 pgs. |
| EXAMINER | DATE CONSIDERED |
| *EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. | |